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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,519	07/20/2001	Wylci Fables	SSR-P1D	3023

26793 7590 06/25/2004

LEIGHTON K. CHONG
OSTRAGER CHONG & FLAHERTY (HAWAII)
841 BISHOP STREET, SUITE 1200
HONOLULU, HI 96813

EXAMINER	
RAMPURIA, SATISH	

ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/910,519	FABLES ET AL.
	Examiner	Art Unit
	Satish S. Rampuria	2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/17/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the application filed on 07/20/2001.

2. This is in response to the preliminary amendment received on 07/20/2001.

3. Claims 1-20 have been cancelled.

4. Claims 21-40 are added as new claims.

5. Claims 21-40 are pending.

Information Disclosure Statement

6. An initialed and dated copy of Applicant's IDS form 1449 is attached to the instant Office action.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 21-29, 31, 33, and 35-38 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,038,593 to Huckins, hereinafter called Huckins.

Per claims 21 and 28:

Huckins disclose:

- A distributed computing method (col. 3, lines 11-12 "distributed service architecture") comprising the steps of:
- creating a plurality of software entities ("molecules") (col. 5, lines 51-55 "application 233 creates the class object residing either in the application's own process space or in another process space on the machine 103" also, fig. 2) each of which is configured with software micro-components for sending and receiving communication signals to or from another molecule or logic web externally of the respective molecule (col. 3, lines 21-24 "The RI interface server is for sending and receiving protocol data units (PDUs) to and from another machine through the communication pipe linking the machines"), said micro-components of each molecule being operatively connected each other for processing input data a given computing environment (col. 4, lines 18-20 "The RI interface server is for sending and receiving protocol data units (PDUs) to and from another machine through the communication pipe linking the machines") in which said molecule is deployed and providing a resulting output of processing the input data (col. 6, lines 55-67 "the resulting changes to the data may be displayed to the user via the graphical user interface (GUI) 208 associated with the first application 233" also fig. 2);
- deploying the plurality of molecules each on a respective one of a plurality of computing environments (col. 4, lines 4-6 "a communication pipe 101 is tapped into by multiple machines 103, 105 and 107 in which a copy of the same application will be running" also fig. 1); and
- initializing each molecule deployed its respective computing environment to initiate "logic web" of molecules of data processing functions in successive layers of

incremental processing steps(col. 3, lines 24-28 "The RI interface is for handling function calls from the application, and for creating an instance of itself, called a local-implementation (LI) interface, in a remote machine"), with a first molecule invoking one or more other molecules to incrementally extend said logic web "on the fly" (col. 3, lines 31-40 "RI server will create a PDU... includes... object identification (OID) of the RI interface and a unique function ID (FID) identifying the particular function that was invoked... PDU is... forwarded to... communication pipe... PDU... received... RI server... the RI server uses the OID and FID contained in the PDU to invoke the function through the previously created LI interface. A local implementation of the function in the remote machine is then performed").

Per claim 35:

Huckins disclose:

- A distributed computing method (col. 3, lines 11-12 "distributed service architecture") comprising the steps of:
- creating a plurality of software entities ("molecules") (col. 5, lines 51-55 "application 233 creates the class object residing either in the application's own process space or in another process space on the machine 103" also, fig. 2) each of which is configured with software micro-components for sending and receiving communication signals to or from another molecule or logic web externally of the respective molecule (col. 3, lines 21-24 "The RI interface server is for sending and receiving protocol data units (PDUs) to and from another machine through the communication pipe linking the machines"), said micro-

components of each molecule being operatively connected each other for processing input data a given computing environment (col. 4, lines 18-20 "The RI interface server is for sending and receiving protocol data units (PDUs) to and from another machine through the communication pipe linking the machines") in which said molecule is deployed and providing a resulting output of processing the input data (col. 6, lines 55-67 "the resulting changes to the data may be displayed to the user via the graphical user interface (GUI) 208 associated with the first application 233" also fig. 2);

- deploying the plurality of molecules each on a respective one of a plurality of computing environments (col. 4, lines 4-6 "a communication pipe 101 is tapped into by multiple machines 103, 105 and 107 in which a copy of the same application will be running" also fig. 1); and
- initializing each molecule deployed its respective computing environment to initiate "logic web" of molecules of data processing functions in successive layers of incremental processing steps(col. 3, lines 24-28 "The RI interface is for handling function calls from the application, and for creating an instance of itself, called a local-implementation (LI) interface, in a remote machine"), with a first molecule invoking one or more other molecules to incrementally extend said logic web "on the fly" (col. 3, lines 31-40 "RI server will create a PDU... includes... object identification (OID) of the RI interface and a unique function ID (FID) identifying the particular function that was invoked... PDU is... forwarded to... communication pipe... PDU... received... RI server... the RI server uses the OID and FID contained in the PDU to invoke the function

through the previously created LI interface. A local implementation of the function in the remote machine is then performed")

- having each logic web at each network computing site perform its data processing functions in its respective computing environment autonomously (col. 4, lines 15-18 "the communication pipe supports a multicast protocol wherein a machine does not necessarily have a one to one relationship with another machine" also fig. 1), and returns an output which is desired to be obtained from that network computing site (col. 4, lines 4-6 "a communication pipe 101 is tapped into by multiple machines 103, 105 and 107 in which a copy of the same application will be running" also fig. 1).

Per claim 22:

The rejection of claim 21 is incorporated, and further, Huckins disclose:

- wherein each logic web in each computing environment performs its data processing functions in respective computing environment autonomously (col. 4, lines 15-18 "the communication pipe supports a multicast protocol wherein a machine does not necessarily have a one to one relationship with another machine" also fig. 1), and returns an output which is desired to be obtained from that computing environment (col. 4, lines 4-6 "a communication pipe 101 is tapped into by multiple machines 103, 105 and 107 in which a copy of the same application will be running" also fig. 1).

Per claims 23, 36, and 38:

The rejection of claims 21 and 35 is incorporated, respectively, and further, Huckins disclose:

- wherein each logic web returns the output for its respective computing environment to an external monitoring entity, and said external monitoring entity combines the outputs from the other computing environments to obtain a combined output of distributed computing (col. 6, lines 65-67 "the resulting changes to the data may be displayed to the user via the graphical user interface (GUI) 208 associated with the first application 233") .

Per claims 24, 25, and 37:

The rejection of claims 21 and 36 is incorporated, respectively, and further, Huckins disclose:

- wherein the computing environments are a plurality of computing sites distributed on a network (col. 3, lines 12-14 "a multicast environment and enables remote application control among multiple machines connected by a communication pipe" also fig. 1), and the logic webs return their outputs by sending signals on the network (col. 7, lines 37-46 "message will... received by... machines connected to the pipe 101... control message will contain the new OID "X" and will instruct server 321 to instantiate an associated interface object 329 (a local-implementation (LI) interface) and to associate it with the same OID X") .

Per claims 26 and 33:

The rejection of claim 21 is incorporated, and further, Huckins disclose:

- wherein said software micro-components include a signal handler, at least one input handler, at least one output handler, an interface handler, and at least one method handler for an associated method (col. 6, lines 55-67 and col. 7, lines 1-16 also fig. 2),

- said at least one input handler being operative for queuing input data (fig. 2, element 203), said interface handler being operative for determining when a predefined input condition for required input data to be received by said input handler is fulfilled (col. 6, lines 18-24 "Application 233 obtains an interface 209 from COM interface server 203, having a globally unique identifier GUID(j)... an object identification (OID) X. Server 203 has a GUID(j)... access to local implementation of the function f(y) with results of the performed function being displayed to the user through the graphical user interface (GUI) 208") and
- the invoking said method handler, said method handler being operative for invoking said associated method for processing the input data (col. 5, lines 47-54 "function identifier (FID) that is assigned for each function listed in interface 209... functions are redefined by interface definition. Each unique interface, such as IDocument, is identified by a GUID which the client application 233 and server 203 are aware of. The unique interface must also be identically defined by both client and server 203"), and
- said at least one output handler being operative for outputting a result of the processing of input data by said method (col. 6, lines 65-67 "the resulting changes to the data may be displayed to the user via the graphical user interface (GUI) 208 associated with the first application 233").

Per claim 27:

The rejection of claim 21 is incorporated, and further, Huckins disclose:

- wherein said software micro-components are stored in a library for run time use (col. 8, lines 18-20 "the object can reside in application 135 and will cause changes to data stored in machine 105"), and during run time a logic web is deployed in a given computing environment invoking a first molecule to be retrieved from the library and executed in the given computing environment (col. 7, lines 13-17 "GUID for server 301 may be obtained by either embedding the GUID value in the binary code of application 133, or by the application 133 at run time from its application configuration file or the system registry of the operating system"), and said first molecule invoking one or more other molecules to incrementally extend said logic web "on the fly" (col. 3, lines 31-40 "RI server will create a PDU... includes... object identification (OID) of the RI interface and a unique function ID (FID) identifying the particular function that was invoked... PDU is... forwarded to... communication pipe... PDU... received... RI server... the RI server uses the OID and FID contained in the PDU to invoke the function through the previously created LI interface. A local implementation of the function in the remote machine is then performed"),

Per claim 29:

The rejection of claim 21 is incorporated, and further, Huckins disclose:

- wherein said creating step includes creating molecules having a built-in handler function for performing a clean-up of its functions when the molecule is to be terminated (col. 7, lines 21-27 "the switcher task would simply modify the system registry or application configuration file for application 133 to specify GUID(i) of the "distributed" server 301

as the server GUID that application 133 should use for its function calls. To switch back to local mode, the switcher task would reset the configuration file to GUID(j) of the "non-distributed" server 303")

Per claim 31:

The rejection of claim 21 is incorporated, and further, Huckins disclose:

- wherein said signal handler can receive signals for and has a handler type for dynamically reconfiguring the micro-component handlers of the molecule while in existence to perform a processing task (col. 3, lines 36-40 "PDU is received by a RI server in a remote machine, the RI server uses the OID and FID contained in the PDU to invoke the function through the previously created LI interface. A local implementation of the function in the remote machine is then performed").

Substantially as claimed.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 30, 32, 34, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huckins in view of US Patent No. 5,701,439 to James et al., hereinafter called James.

Per claim 30:

The rejection of claim 21 is incorporated, and further, Huckins disclose wherein said creating step includes creating molecules having a handler type for recording information on the state of its micro-component handlers and signaling such state information externally through said signal handler.

However, James discloses in an analogous computer system a transition diagram showing various states that the system passes through during a normal simulation run (col. 4, lines 58-63 "While in operate..., be desirable to temporarily suspend execution of the simulation, then subsequently return to the operate mode... at some point in time the operate mode will normally be terminated in some orderly fashion, possibly to return to an initialization state. This sequence of states and state transitions is detailed in FIG. 2" also fig. 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of recording different stats of the program as taught by James into the method of distributing applications for multicast environment systems as taught by Huckins. The modification would be obvious because of one of ordinary skill in the art would be motivated to use stat information to provide data handling in simulation as suggested by James (col. 1, lines 62-67 to col. 2, lines 1-8).

Per claims 32 and 39:

The rejection of claims 21 and 38 is incorporated, respectively, and further, Huckins does not explicitly disclose wherein said interface handler includes a handler type for providing the molecule with the characteristic of autonomously waiting, looking, and proceeding with said associated method for processing input data by waiting until said input handler indicates that the predefined input conditions are present before invoking said method handler for the associated method.

However, James discloses in an analogous computer system a wait queue being used by discrete-event components of the system (col. 4, lines 36-40 "discrete-event components of the system use a set of execution (event) 22, wait 28, and resource 26 queues for each discrete-event process; a single continuous model execution (consim) 24 queue is shared by all continuous model processes" also fig.1, element 28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of using wait queue feature as taught by James into the method of distributing applications for multicast environment systems as taught by Huckins. The modification would be obvious because of one of ordinary skill in the art would be motivated to implement a wait queue in the system to improve handling of functions calls through the interface for uniform simulation as suggested by James (col. 1, lines 62-67 to col. 2, lines 1-8).

Per claims 34 and 40:

The rejection of claims 21 and 39 is incorporated, respectively, and further, Huckins does not explicitly disclose wherein said input handler is selected from one of a plurality of input handler types corresponding respectively to a plurality of different data source types.

However, James discloses in an analogous computer system the architecture of the combined discrete event and continuous model simulation permits the use of several language models with separate process for each function (col. 4, lines 34-36 "global data and control structures, designated as 20 in FIG. 1, reside in shared memory accessible to any process that requires them" also fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of using multiple language feature as taught by James into the method of distributing applications for multicast environment systems as taught by Huckins. The modification would be obvious because of one of ordinary skill in the art would be motivated to implement a multiple language feature in the system to improve handling of functions calls through the interface for uniform simulation as suggested by James (col. 1, lines 62-67 to col. 2, lines 1-8).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to further show the state of the art with respect to distributing computing method.

US Patent No. 5,339,430 to Lundin et al.

US Patent No. 6,389,483 to Larsson

US Patent No. 5,761,499 to Sonderegger

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satish S. Rampuria whose telephone number is 703-305-8891. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria

Patent Examiner

Art Unit 2124

06/28/2004

ANIL KHATRI
PRIMARY EXAMINER